
Validation of the Name *Zingiber koshunense* (Zingiberaceae), a Species Endemic to Taiwan

Wu Delin (Wu Te-lin)

Herbarium, South China Institute of Botany, Chinese Academy of Sciences, Wushan, Guangzhou, Guangdong 510650, People's Republic of China

Kai Larsen

Department of Systematic Botany, Institute of Biological Sciences, University of Aarhus, Nordlandsvej 68, DK-8240 Risskov, Denmark

Nicholas J. Turland

Missouri Botanical Garden, P.O. Box 299, St. Louis, Missouri 63166, U.S.A.

ABSTRACT. During preparation of the account of Zingiberaceae for the *Flora of China*, volume 24, it was noticed that one species, *Zingiber koshunense* Hayata, reported from Taiwan in 1930, was invalidly named because no description was provided. The species was later described in 1978 as *Z. koshunense* Hayata ex C. T. Moo, but the name remained invalid because, although two specimens were cited, there was no indication of a type. The name is here validated, with one of these specimens designated as the holotype.

Zingiber koshunense will be accepted as a species endemic to Taiwan by Wu and Larsen in their forthcoming account of Zingiberaceae in the *Flora of China*, volume 24 (in press). It is similar to *Z. kawagoi* Hayata (1921: 35), which is also endemic to Taiwan, but differs in usually having 2 or 3 (vs. 1) inflorescences, an orange-red, oblong (vs. dark brown, triangular) capsule, and brown (vs. black) seeds with a saclike (vs. cushion-like) aril. *Zingiber koshunense* was not treated by Wu and Chen (1981) in their account of Chinese *Zingiber*, but instead was mentioned in a short note (p. 140) stating that no specimens had been seen.

A nomenclatural problem exists for this species. Sasaki (1930: 139), in his catalogue of the Government Herbarium in Taiwan (TAIF), listed "*Zingiber koshunensis* [sic] Hayata," citing the specimen *T. Kawakami* & *S. Sasaki*, TAIF specimen no. 6461 from "The Ahi-sen Central Mt. Range" of Taiwan. He attributed the name to Hayata, although no earlier publication of the name by that author could be traced. Sasaki (1930) provided no description, so his publication of the name was invalid (a nomen nudum) under Article 32.1(c) of the *Tokyo Code*

(Greuter et al., 1994). The same name was later accepted in the *Flora of Taiwan* by Moo (1978: 850), and explicitly described as a new species, with the name (but not the description) ascribed to Hayata (i.e., "Hayata ex C. T. Moo," Art. 46.4). However, *Z. koshunense* still remained invalidly published because no single collection or illustration was indicated by Moo as the type (Arts. 8.1, 37.1). Moo cited in his treatment two specimens, neither of which was designated as the type. One of those specimens is the same one cited earlier by Sasaki, and it is here designated as the holotype of *Z. koshunense*. Moo remains the author of the name because he, rather than the present authors, provided the validating description (Art. 46.2). The holotype, at TAIF, was collected in 1910 from Abei (Apei) in Taidong (Taitung) County in southern Taiwan, according to Moo, although the collection date given on the label is actually 2 January 1911 (Wen-Liang Chiou, pers. comm.). The other specimen was collected by Moo himself on Lan Yu (Orchid Island), off the eastern coast of southern Taiwan, in September 1972, and is preserved at TAI (3 sheets; Chang-Fu Hsieh, pers. comm.). In addition, a third collection of *Z. koshunense* was made by Shu-Miaw Chaw in Pingdong (Pingtung) County in southern Taiwan in October 1988 (HAST, NMNS, MO, PE, TAIF, TNU).

Zingiber koshunense C. T. Moo, sp. nov. TYPE: China. Taiwan: Taidong [Taitung] County, Abei [Apei], 2 Jan. 1911 (fl), *T. Kawakami* & *S. Sasaki* s.n. (holotype, TAIF).

Zingiber koshunense Hayata ex C. T. Moo, in H. L. Li et al., *Fl. Taiwan* 5: 850. 1978, nom. inval. (Arts. 8.1, 37.1). TYPE: not indicated.

Acknowledgments. We thank Wen-Liang Chiou,

of the Division of Forest Biology at the Taiwan Forestry Research Institute, for supplying digital images and other details of specimens of *Zingiber koshunense* at TAIF. We also thank Chang-Fu Hsieh, of the Department of Botany at the National Taiwan University, for providing information on Moo's collection of *Z. koshunense* at TAI.

Literature Cited

- Greuter, W., F. R. Barrie, H. M. Burdet, W. G. Chaloner, V. Demoulin, D. L. Hawksworth, P. M. Jørgensen, D. H. Nicolson, P. C. Silva, P. Trehane & J. McNeill (editors). 1994. International Code of Botanical Nomenclature (Tokyo Code). *Regnum Veg.* 131.
- Hayata, B. 1921. *Icones plantarum formosandarum nec non et contributiones ad floram formosanam*, 10. Bureau of Productive Industry, Government of Formosa, Taihoku.
- Moo, C. T. 1978. Zingiberaceae. Pp. 831–853 in H. L. Li, T. S. Liu, T. C. Huang, T. Koyama & C. E. DeVol (editors), *Flora of Taiwan*, 5. Epoch Publishing, Taipei.
- Sasaki, S. 1930. A catalogue of the Government Herbarium. Rep. Dept. Forest. Gov. Res. Inst. Taihoku 9: 1–VII, 1–592.
- Wu, T. L. & S. J. Chen. 1981. *Zingiber* Boehm. Pp. 139–148 in T. L. Wu (editor), *Flora Reipublicae Popularis Sinicae*, 16(2). Science Press, Beijing.
- & K. Larsen. In press. Zingiberaceae. In: Z. Y. Wu & P. H. Raven (editors), *Flora of China*, 24. Science Press, Beijing & Missouri Botanical Garden Press, St. Louis.